



# Shed Rehabilitation Guide

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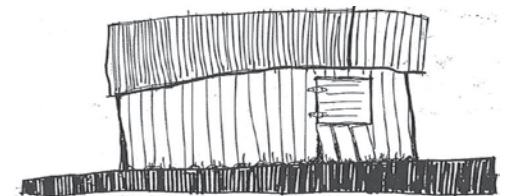
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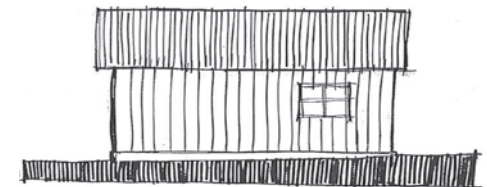
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*The reality: before rehabilitation*



*The goal: after rehabilitation*

**THE PURPOSE OF THIS GUIDEBOOK**  
is to to make it as easy as possible for the owner of a shed to rehabilitate (or “rehab”) the structure while preserving its historic character. The conversion of a shed to a living or work space, in particular, presents unique challenges.

This guidebook does not duplicate the many existing publications about the more general topics of shed construction or historic preservation. It does refer to these other documents where the reader may find more detailed information on a specific topic.

This guidebook is divided into the two parts listed below. Part 1 describes the process of designing the rehabilitation project. Part 2 lists factors to consider regarding different parts of the shed and its site.

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# Part 1: Planning the Rehab Project

## Steps to Rehabilitate a Shed

### Step 1: Deciding to Rehab a Shed

\_\_\_\_\_ The owner decides to rehab his or her shed.

\_\_\_\_\_ The owner makes a preliminary estimate of how much to spend.

\_\_\_\_\_ The owner makes a preliminary estimate of how long he expects to project takes to complete.

### Step 2: Getting Organized

\_\_\_\_\_ The owner decides whether to manage the project, or to hire someone else to act as *project representative*.

\_\_\_\_\_ The owner decides whether to do the rehab construction, or to hire someone else.

\_\_\_\_\_ The owner decides whether to prepare any drawings that may be needed, or to hire an architect or a designer.

*If the owner decides to hire a designer or architect:*

\_\_\_\_\_ The owner interviews several architects or designers and chooses one for the project.

\_\_\_\_\_ The owner, with the assistance of the architect, determines if a “bid process” or “design build process” will be used.

### Step 3: Assessing the Existing Shed

\_\_\_\_\_ Look for any historic records or photographs of the shed.

\_\_\_\_\_ Thoroughly photograph the shed before any changes are made.

\_\_\_\_\_ Use photos or sketches of the shed for recording notes about the shed.

\_\_\_\_\_ Identify parts of the shed that appear to be original and that appear to be later changes.

\_\_\_\_\_ Identify the condition for each different part of the shed.

*Alternatives to the 6 steps.* Sometimes it may be more accurate to describe the process as a circle (or even an inward spiral) rather than a simple straight line of several steps. A change to the floor plan affects the building elevation. A change to the structure affects the floor plan. A change to the design affects budget, which may then affect the schedule, and so on.

*(Contracts. Many architects use standard forms created by the American Institute of Architects (AIA) for contracts and other paperwork during the design and construction of the project.)*

#### Step 4: Coming up with a Plan

\_\_\_\_\_ The architect draws a sketch plan (also called a “conceptual plan”) of one or more alternative for using the shed.

\_\_\_\_\_ The owner chooses one alternative, a combination of several alternatives, or requests further study.

\_\_\_\_\_ The architect refines the selected plan.

\_\_\_\_\_ The architect assists the owner in updating the schedule and budget.

\_\_\_\_\_ The architect reviews codes and regulations that apply to the project.

\_\_\_\_\_ The architect prepares a more specific set of preliminary plans (also called “design development drawings”) that often includes a site plan, floor plan, elevations, and a building section.

\_\_\_\_\_ At this stage the owner by himself or herself, or with the architect acting as the owner’s representative, may select a contractor.

\_\_\_\_\_ Contractor updates budget estimate.

#### Step 5: Obtaining Approvals

\_\_\_\_\_ The “project representative” determines what type of approvals and permits are needed.

\_\_\_\_\_ The project representative applies for the different types of approvals. (See “Codes, Permits, and Inspections” in this guidebook for information on the different types of approvals and permits that may be required before construction may begin.)

\_\_\_\_\_ Revise the plans, budget and schedule to incorporate any conditions of approval or of a permit.

\_\_\_\_\_ The architect prepares the construction plans (also referred to as “working drawings” or “construction documents”. The term “construction documents often is used to indicate two different types of documents: (1) a set of construction drawings, and (2) a booklet of “construction specifications” that describe construction procedures, building materials, and quality of work.

#### Step 6: Construction

\_\_\_\_\_ Depending on the process chosen under getting organized, contractors and subcontractors may submit bids to construct the project.

\_\_\_\_\_ The contractor and any subcontractors construct the project. The specific work varies with the type of project, but may include the following.

- \_\_\_\_\_ Clearing, demolition & excavation
- \_\_\_\_\_ Foundation
- \_\_\_\_\_ Extend utilities to structure
- \_\_\_\_\_ Framing and rough carpentry
- \_\_\_\_\_ Rough-in utilities
- \_\_\_\_\_ Finish carpentry
- \_\_\_\_\_ Fixtures and equipment
- \_\_\_\_\_ Finish utilities
- \_\_\_\_\_ Exterior and interior finishes
- \_\_\_\_\_ Complete site work
- \_\_\_\_\_ Clean up and demobilization

\_\_\_\_\_ The project representative monitors construction progress, authorizes payment to contractors, and works with contractors and the Town departments on changes that occur on almost all projects.

## STEP 1: DECIDING ON A SHED PROJECT

The starting point for a shed project is deciding to make some kind of change to an existing shed. This could range from minor repairs to converting the shed into a guest room or workshop.

### TYPES OF SHEDS.

“Shed” refers to both a simple storage structure as well as a much the larger group of outbuildings on the same property as a house or a building used for business.

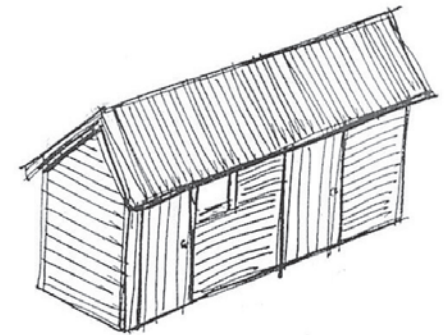
Sheds have served a wide variety of purposes: barns, privies or outhouses, coal bins, storage sheds, carriage sheds and garages, chicken coops, guesthouse, workshop, or even a small dwelling.



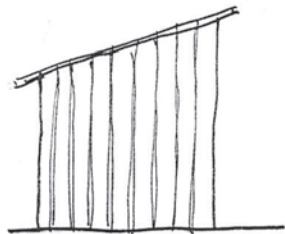
Barn / workshop



Garage (formerly carriage shed)



Combination outhouse / coal shed



Storage shed



Chicken coop



Secondary dwelling



Two-story outhouse

## USE OF THE SHED

List the requirements for continued use of the property. Is additional space needed? Or should the rehabilitation work focus on preserving and maintaining the structure in its existing configuration?

Following are some questions to consider:

- What use or uses of the shed do you want?
- How much space is required?
- Are there minimum dimensions (for example, to park a vehicle inside of the shed, how long and wide of a space is needed)?
- Will someone occupy the space (for living, work, or recreation)?
- Is that occupancy part-time (or seasonal) or is it all the time?
- Is more than one room or space needed?
- Is there additional storage space needed for the use, and if so, how much?
- Are there specific pieces of furniture, appliances, or fixtures (like cabinets) that must go in the space?
- What type of access (single door, double door, garage door) is needed?
- What type of utilities are needed (lighting, power, cold water, hot water, bathroom, telephone, cable)?

### Possible Changes Needed for Different Types of Uses

| Part of the Building              | Human Occupancy |           | Storage |       |
|-----------------------------------|-----------------|-----------|---------|-------|
|                                   | Full- time      | Part-time | Vehicle | Other |
| <b>Structure</b>                  |                 |           |         |       |
| - Floor                           | x               | x         | —       | —     |
| - Ceiling                         | x               | —         | —       | —     |
| - Finish walls                    | x               | —         | —       | —     |
| - Interior walls                  | x               | —         | —       | —     |
| - Windows (emergency exit)        | x               | x         | —       | —     |
| - Doors                           | x               | x         | —       | —     |
| - Insulation and moisture control | x               | —         | —       | —     |
| - Added space                     | x               | —         | x       | —     |
| - Change of opening sizes         | x               | —         | x       | —     |
| <b>Site</b>                       |                 |           |         |       |
| - Driveway and parking            | x               | —         | x       | —     |
| <b>Utilities</b>                  |                 |           |         |       |
| - Electrical (power and lighting) | x               | x         | x       | —     |
| - Heating and cooling             | x               | —         | —       | —     |
| - Plumbing                        | x               | —         | —       | —     |

## STEP 2: GETTING ORGANIZED

**THE APPROACH TO A REHABILITATION PROJECT.** Before undertaking a shed rehabilitation project, it is helpful to understand a shed's historic significance and how that affects the approach to its rehabilitation.

### Basis for a Shed's Historic Significance

- In 1963 the United States Congress designated Telluride as a National Landmark Historic District (NLHD) because of its historic significance.
- Telluride's historic significance stems from (1) its association with a period of history, and (2) the overall historic integrity of the buildings and their surroundings which together make up the district.
- Telluride's District is associated with the early period of mining, as well as the related labor struggles and the development of alternating current (AC) to serve mining activity. This is referred to as the "period of significance."
- Buildings from the period of significance contribute to the character of the district.

- A District is defined by the National Register of Historic Places Standards, administered by the National Park Service (NPS) of the Department of the Interior.

- Those standards include the District exhibiting an integrity of association among the buildings and their surroundings.

- A district's integrity is derived from a substantial number of historically significant structures and sites within its boundaries.

- Each of those properties also must have integrity, in that a sufficient percentage of the structure must date from the period of significance.

- The majority of the building's structural system and materials should date from the period of significance and its character defining features should also remain intact.

- Character defining features include architectural details, such as dormers and porches, ornamental brackets and moldings and materials, as well as the overall mass and form of the building. It is these elements that allow a building to be recognized as a product of its time.

### General approach to rehabilitation.

1. Protect and maintain historic features that survive in generally good condition.
2. Repair historic materials and features that are deteriorated.
3. Replace historic materials and features with new materials where deterioration is so extensive that repair is not possible.
4. Respect the historic design character of the building. Don't try to change its style or make it look older, newer or more ornate than it really was.
5. Preserve the sheds relationship to its site and surroundings.
6. Provide for an efficient contemporary use that will require minimal alteration of the shed and its site. A use closely related to the original use is preferred.

### *Sources and further information:*

- *Design Guidelines for Building in Telluride*



## PROFESSIONAL HELP

Several types of professionals can help with a shed rehabilitation project.

*Architect.* An architect is licensed by the state to design buildings. Sometimes a simple structure does not require an licensed architect, and plans may be prepared by a *designer* or *drafter*.

*Engineer.* An engineer is also licensed by the state. Engineers who specialize in buildings are called architectural engineers or civil engineers. More specific types of engineers who might be involved with the engineering for a building include a soils engineer, structural engineer, mechanical engineer, and electrical

engineer. On a simple structure where the building code does not require an engineer, some or all of similar type of work might be done by the contractor and subcontractors.

*General contractor or contractor.* A general contractor has overall responsibility for the construction work.

*Interior designer.* An interior designer provides design services for completing the inside of the building, including finish materials and furnishings.

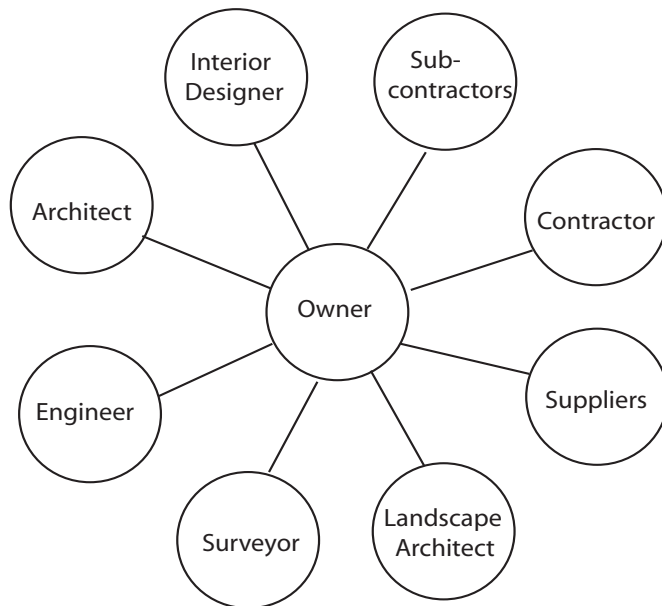
*Landscape architect.* A landscape architect or designer provides landscaping design services. Sometimes a landscape contractor or plant nursery provides this type of service.

*Subcontractor.* A subcontractor performs work that usually requires more specialized skill or experience, such as electrical or plumbing.

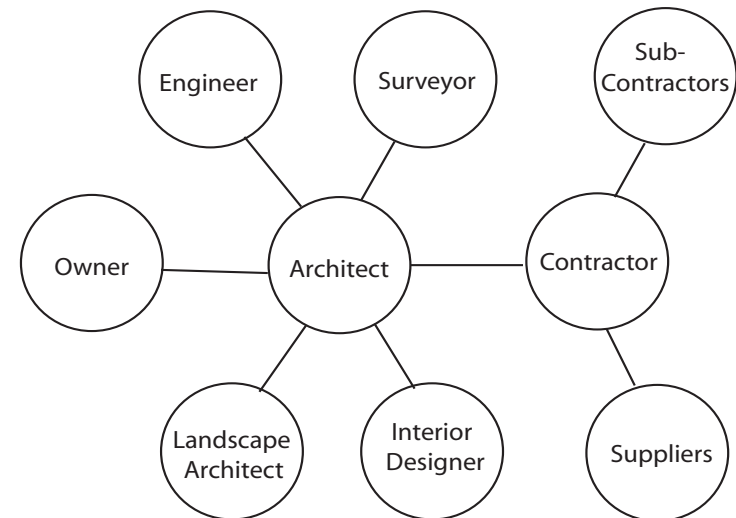
*Supplier or manufacturer's representative.* Special or unique building products, such as cabinets or custom windows, may involve a supplier's representative with the project.

*Surveyor.* A surveyor prepares a survey drawing showing property information or physical conditions of the property, or both.

The diagrams below show 2 of many different ways of providing directions. The owner may be at the center, or choose someone to coordinate.



Owner coordinates the project.



Owner hires someone else to coordinate.

## EVALUATING THE EXISTING CONDITION OF THE SHED - DOCUMENTATION

The preceding section describes the typical process for designing a building. National standards, under the aegis of the Secretary of the Interior, identify additional factors to consider for an historic structure.

1. Check existing sources of information about the shed. A starting point is an investigation of the history of the property. A first step is to investigate the history of the property. There are a variety of sources.

- Local history section of the library
- Deeds in county records
- Permits in the building department
- Books on local history

- Local historical society or museum
- Sanborn maps (found in many libraries)
- Previous owners of the property (family photos)

2. Evaluate the way the shed looks today, by examining the structure and its surroundings. Identify which elements are original and which were subsequent alterations. Determine the condition of individual building components. The following tools are helpful: pen, pad, clipboard, tape measure, flashlight, flat screw driver, utility knife and ladder.

3. Assess architectural integrity, including existing physical condition. Integrity means how much of the historic structure is intact. Identify alterations as well as deteriorated conditions.

4. Thoroughly photograph the structure to document its condition prior to any construction.

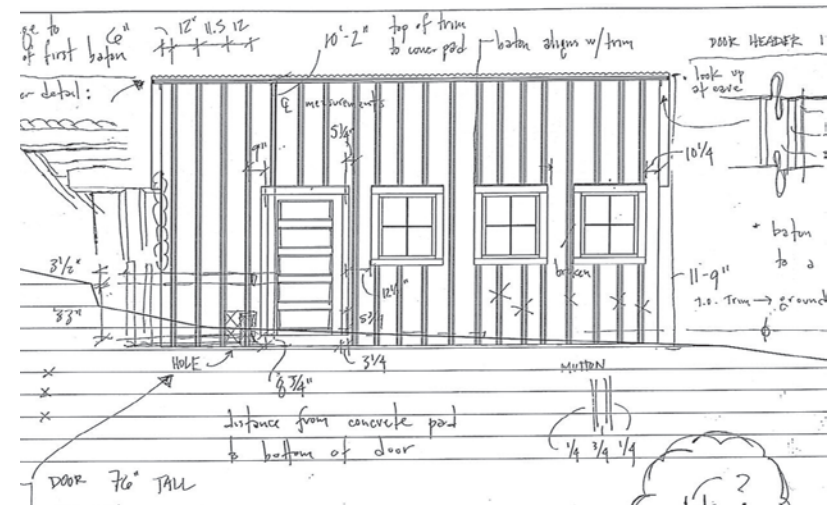
5. Review any codes and legal requirements, in particular historic and architectural standards.

6. Check use of federal (or state) funds and associated requirements. Sometime grants or tax credits are available for rehabilitation of historic structures.

### References:

*The following standards are available on line from the National Park Service:*

- *Rehabilitating Historic Buildings*
- *Standards for Architectural and Engineering Documentation*
- *Standards for Historical Documentation*



**Historic Value and Classification.** The Town classifies sheds and other buildings according to their historic value. The Town’s website includes a colored map showing buildings in the following categories.

A *contributing structure* remains in or has been restored to a comparatively original condition. (Also called a “rated” structure.)

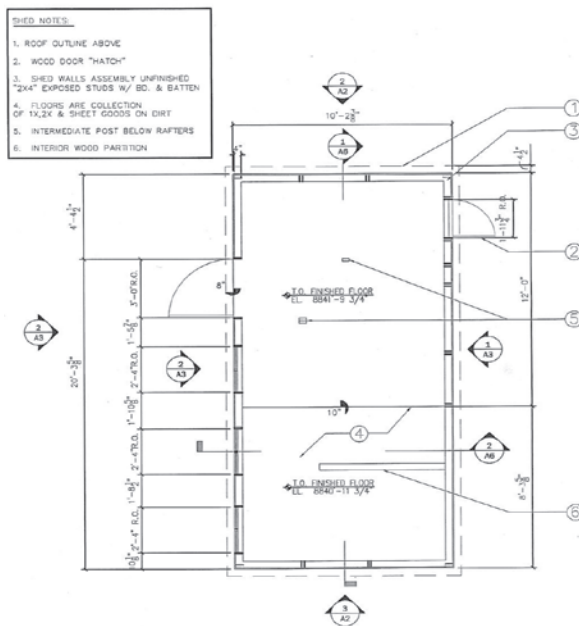
A *supporting structure (also called a rated structure)* has been somewhat altered from its original condition, but still contributes to the community’s historic character and could be restored.

A *designated structure with qualifications* has been significantly altered from its original condition, but could be

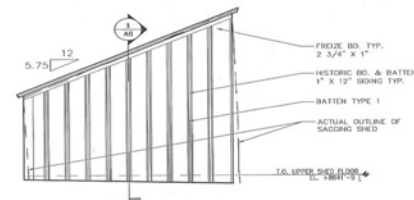
restored with a substantial effort.

A *designated structure without qualifications* has been so extensively altered that it is probably not possible to restore the structure to its original condition.

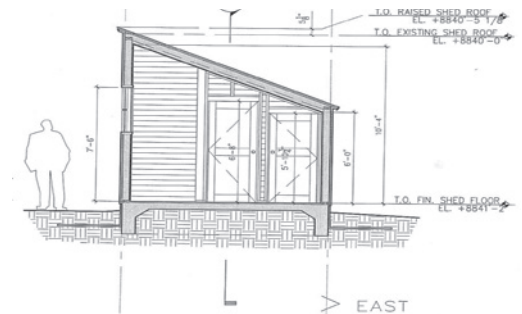
All other structures are referred to as *non-designated structures*.



Floor plan drawing



Elevation drawing



Section drawing

## PRESERVING HISTORIC FEATURES

**Historic features and materials.** Historic features, including original materials, building and architectural details, window and door openings, building form, materials and scale contribute to the character and significance of a structure and should be preserved when feasible. Distinctive stylistic features or examples of skilled craftsmanship should be treated with sensitivity. Continued maintenance is the best preservation method. Rehabilitation work should not destroy the distinguishing qualities or character of the property.

A. Avoid removing or altering any historical material or significant architectural features.

1. Porches, turned columns, brackets and jigsaw ornaments, if historic, are examples of architectural features which should not be removed or altered if possible. Other significant features include the building's overall form, its roof form, and structure.

2. Preserve features such as original doors, windows and porches in their original form and position.

3. Retain and preserve original wall and siding material.

B. Avoid adding materials, elements or details which were not part of the original building.

1. For example, details such as decorative

millwork or shingles should not be added to buildings if they were not an original feature of that structure.

C. Protect and maintain significant stylistic elements.

1. The best preservation procedure is to maintain historic features from the outset so that intervention is not required. Employ treatments such as rust removal, caulking, limited paint removal and reapplication of paint.

D. Use approved technical procedures for cleaning, refinishing and repairing historical materials.

**Historic elements.** Deteriorated architectural features should be repaired rather than replaced, wherever possible.

A. Minimize intervention with historic elements.

1. Maintain character-defining features. Then, repair only those features that are deteriorated. Finally, replace only those features that are beyond repair.

2. Patch, piece-in, splice, consolidate or otherwise upgrade the existing material, using recognized preservation methods whenever possible.

B. Replacement of missing elements may be included in repair activities.

1. Use the same kind of materials as the original when feasible. A substitute material may be acceptable if the form and design of the substitute itself conveys the visual appearance of the original material.

C. When disassembly of an historic element is necessary for its restoration, use methods that minimize damage to the original materials.

1. When disassembly of an historic feature is required in a restoration procedure, document its location so it may be repositioned accurately. Always devise methods of replacing the disassembled materials in their original configuration.



## REPLACEMENT

**Missing elements.** While restoration is the preferred alternative, replacement in-kind is an option. In the event replacement is necessary, the new material should match that being replaced in design, color, texture and other visual qualities. Replacement should occur only if the existing historic material cannot be reasonably repaired.

### **A. Replacement of missing elements may be included in repair activities.**

1. Replace only those portions that are beyond repair.
2. Replacement elements should be based on documented evidence.

### **B. Replace missing original features in kind when feasible.**

1. Use the same kind of material as the original when feasible. A substitute material may be acceptable if the form and design of the substitute itself conveys the visual appearance of the original material.

### **C. Repair or replacement of missing or deteriorated architectural elements should be based on accurate duplications of original features.**

1. The design should be substantiated by physical or pictorial evidence to avoid creating

a misrepresentation of the building's genuine heritage.

2. Overall, a high percentage of the materials and features of the property must be historic, in order to retain the integrity of the resource as an historic property.

### **D. When reconstruction of an element is impossible, developing a compatible new design that is a simplified interpretation of the original is appropriate.**

1. This is appropriate when inadequate information exists to allow for an accurate reconstruction of missing features.
2. The new element should relate to comparable features in general size, shape, scale and feature.
3. This is generally more appropriate with "Supporting" buildings. With "Contributing" buildings, accurate reconstructions are preferred.

### **E. Conjectural "historic" designs for replacement parts that cannot be substantiated by written, physical or pictorial evidence are generally inappropriate.**

1. An exception: For primary "Supporting" residential structures, details may be copied from similar houses within the specific Treatment Area, when there is evidence that a similar element once existed. For

example, when "scars" on the exterior siding suggest the location of decorative brackets but no photographs exist of its design, then designs for historic brackets on historic houses that are clearly similar in character may be used as a model. This is not to be interpreted to mean that adding exuberant amounts of highly decorative trim would be appropriate.

2. For buildings in the "Contributing" category, the use of analogous design elements is generally inappropriate since most buildings in this category are considered to exist in a state close to their original design, and therefore "enhancements" of this nature might alter the significance and integrity of the building.

### **F. Use materials similar to those employed historically when feasible.**

1. If substitute materials must be used, they should match the original in appearance as closely as possible.
2. Retaining later covering materials that have not achieved historic significance is discouraged. Asphalt siding covering original wood siding is considered inappropriate.

### ***Sources and further information:***

### ***Design Guidelines***

## ALTERATIONS, ADDITIONS, AND ATTACHMENTS

### Existing alterations and additions

Some changes to a building may be evidence of the history of the structure, its inhabitants and its neighborhood. Such changes may have developed significance in their own right, and this significance should be recognized and respected.

A. Preserve an older alteration that has achieved historic significance in its own right.

1. An example of such an alteration may be a porch or kitchen wing that was added to the original building in its early history. Such alterations are usually similar in character to the original building in terms of material, finishes and design.

2. Some historic elements and alterations may have been a piece of another building and relocated and reinstalled.

B. A more recent alteration that is not historically significant may be removed.

1. For example, asphalt siding, often designed to simulate brick, has not achieved historic significance in this context and its use would obscure the original clapboard siding. In this case, removal of this alteration and restoration of the original material would be encouraged.

### New alterations and additions

When planning an addition to a historic building, consider the effect the addition will have on the historic building itself. Each building should be recognized as a product of its own time. A design for an alteration or a new addition that would create an appearance inconsistent with historic character of the building should be discouraged. Loss of historic building fabric should be minimized as well.

An addition to a historic structure can radically change the perceived scale and character of the structure if inappropriately designed, diminishing the building's integrity. In order to avoid a negative impact, the historic character and components from which the building derives its significance must be identified. These may include the building's proportions, shape, materials, details, features, fenestration and siting. Once these features are known, the impacts upon those features of constructing an addition should be carefully considered. Additions include porches and bay windows, as well as new rooms.

A. Design an addition or alteration to an historic building such that it will not obscure or destroy its character as it relates to the period of significance in Telluride.

1. An alteration that seeks to imply an earlier or later period than that of the building is inappropriate.

2. An alteration that conveys an inaccurate variation on the historic style is inappropriate. For example, introducing very ornate "Victorian" details is inappropriate on simple structures like sheds.

3. An alteration should not obscure or damage character-defining features.

4. An addition or alteration should, in theory, be "reversible" such that a future owner may restore the building to its historic condition.

5. An addition or alteration that would result in downgrading an historic building's rating is inappropriate.

## Roof And Dormer Additions

When considering constructing an addition to the top of an historic residence, it is important that the integrity of the building be preserved. The addition should be designed in a manner that minimizes damage to historic building fabric and that does not alter the perceived character from the street *or alley*. The character of the dormer addition also must be in keeping with the original structure.

A. Roof additions should be compatible with the form of the historic structure.

1. The size of roof additions, including dormers, should be set back from the primary façade so that the original roof line and form is perceived from the street *or alley*. Roof additions may be appropriate only where they do not change the historic image from the street.

B. A new dormer should remain subordinate to the historic roof in scale and character.

1. A new dormer should be lower than the primary ridge line and set in from the eave.

## Porches And Other Attachments

Porches protect entrances from snow and provide shade in summer. A porch is often one of the most important character-defining elements of the primary façade.

A. Preserve the original porch.

1. Replace missing posts and railings where necessary.
2. Match the original proportions and the spacing of balusters.
3. Avoid using “wrought iron” posts and railings.

B. If replacing a porch is necessary, reconstruct it to match the form and detail of the original.

1. Use materials similar to the original whenever feasible.
2. Avoid decorative elements that are not known to have been used on the building.
3. If it is known that a building had a porch, efforts should be made to accurately reconstruct it.

C. Avoid enclosing porches.

## CODES, PERMITS AND INSPECTIONS

Application for approval usually involves 2 steps.

1. Submittal of an application of the Planning Department to obtain a Certificate of Appropriateness.
  2. Submittal of construction plans and the CA to the Building Department.
- Following is a more detailed breakdown of the review process.

**A. Planning Department.** The Planning Department checks if the followign items comply with the Land Use Code (LUC) of the Town.

- Use of the property
- Minimum setback from property lines
- Maximum building height
- Maximum coverage of the site by buildings
- Maximum allowable floor area
- Minimum number of parking spaces
- If the property is in a subdivision or a Planned Unit Development (PUD), does the project comply with the requirements of the subdivision or PUD.
- Condominium association approval (if the property is part of a condominium)

**B. Referral.** While the Planning Department is reviewing an application, it sends out copies for others to review.

- Building Department does a preliminary review for compliance with the Building Code, with Flood Hazard regulations, and

with Geologic Hazard regulations.

- Public Works Department does a preliminary review for compliance with Public Works standards, groundwater standards, and wetland standards.

**C. Planning & Zoning Commission (P&Z).** If the proposed construction does not comply with any of the above requirements, the matter will will be reviewed in a public hearing by P&Z. P&Z usually holds a hearing once a month.

**D. HARC review.** The Planning Department checks the plans for compliance with Design Guidelines of the Historic and Architectural Review Commission (HARC). All buildings in Town have been reviewed for their historic value. A proposed change to a building (including sheds) in the 2 highest categories for historic value (called “contributing” and “supporting”) must be reviewed in a public hearing.

**E. Certificate of Appropriateness.** Once a plan has been approved in a hearing by Town staff, the Planning Department issues the CA.

**F. Building Plans.** The owner or contractor submits the construction plans, fees and any other required information to the Building Department. The Building Department checks the plans for compliance with the various building codes. The Building Department sends out copies of the plans.

- Planning Department checks that the plans for the building permit match the plans that

received the CA approval.

- Public Works does a final check, and identifies any street, alley or utility improvements needed because of the proposed building construction.
- The Building Department issues a permit, and the owner or contractor pays any applicable fees, including water and sewer fees.

**G. Inspections.** The Building Department conducts seveal inspections during the construction. During construction the Planning Department checks (1) a surveyor’s verification of the height of the structure once framing is completed, and (2) a compliance inspection prior to the final inspection by the Building Department.

**H. Certificate of Occupancy.** Once all inspsections have verified that the building was constructed in compliance with the code, the Building Department issues a Certificate of Occupancy, and construction may begin.



## COSTS AND BUDGET

Undertaking a shed rehabilitation projects involves several different types of costs. The nature of the project affects what types of costs will apply. The type of costs identified below relate to converting an existing shed to “habitable space” (occupied by persons rather than serving only as storage. The purpose of this list is to reduced the chance of expensive “surprises” after your project is well on its way.

### Approval Related Costs (Public Costs)

#### 1. Application (including application fee)

- \_\_\_ HARC application (for approval of the architectural design)
- \_\_\_ P&Z application (applies if a zoning or subdivision approval is also required)
- \_\_\_ Building permit application (applies if a building permit is required)
- \_\_\_ Public Works permit, if applicable

#### 2. Drawings

- \_\_\_ HARC (preliminary plans are needed)
- \_\_\_ P&Z (if needed, the HARC plans can often be used for this purpose as well)
- \_\_\_ Building (final construction plans that are consistent with the HARC plans)
- \_\_\_ Property survey
- \_\_\_ Plat (if the property must be replatted)

#### 3. Studies. One or more of the following may be required, depending upon the location and type of rehab project.

### Building and Site Construction Costs (“Private Costs”)

*Following is an example of one of many ways in which a construction cost estimate is made (the “unit cost” method). Even on a shed project, the contractor’s list of “Items” might run several pages. Be aware that in rural areas, and in particular resort areas, the cost of materials and labor may be much higher than in metropolitan areas. More detailed estimates may include separate columns for labor, material, equipment, and overhead and profit.*

| Item                          | Quantity | Unit Cost | Total Cost |
|-------------------------------|----------|-----------|------------|
| Site clearing and demolition  | _____    | _____     | _____      |
| Trenching for utilities       | _____    | _____     | _____      |
| Installation of utility lines | _____    | _____     | _____      |
| Replacement of landscaping    | _____    | _____     | _____      |
| <b>Total</b>                  | _____    | _____     | _____      |

- \_\_\_ Soils report for a foundation
- \_\_\_ Groundwater study (in areas with a high water table)
- \_\_\_ Geologic report (in hazardous areas, such as very steep slope)

#### 3. Fees (if new or larger taps are required)

- \_\_\_ Water tap fee
- \_\_\_ Sewer tap fee

#### 4. Bonds or financial guarantees

- \_\_\_ Moving an historic shed (even raising it up off of its foundation)
- \_\_\_ Landscaping (if weather delays when plants will be installed)

- \_\_\_ Street or alley improvements (if required) - an example would be to provide a bond to cover part of the cost of paving the a street later)

#### 5. Improvements

- \_\_\_ Street or alley improvements that must be completed before the shed project is completed
- \_\_\_ Utility extension or relocation - this may be expensive and difficult if it is necessary to cross someone elses property to obtain service

#### ***For more specific information:***

*- Contact the applicable Department or Utility*

## Part 2: Rehab for Specific Parts of a Shed

### SITE AND LOCATION:

#### Historic guidelines summary:

1. **Setback.** If feasible, maintain the historic distance between the shed and the property lines (*setback*).
2. **Alley relationship.** If feasible, maintain the vertical distance between floor level and adjacent street or alley.
3. **Grade relationship.** If feasible, maintain vertical distance between floor level and *grade line* along the shed.
4. **Landscape features.** Maintain historic *landscape features* and protect them during construction. Features include historic fences, walls, sidewalks, ornamental site features and mature vegetation. When street trees must be removed because of disease or death, replace them in kind.
5. **Retaining walls.** If feasible preserve historic stone retaining walls. This includes wall height, form, detail, and natural finish (i.e. do not paint or plaster over a stone wall).

Reduce water pressure on retaining walls by improving

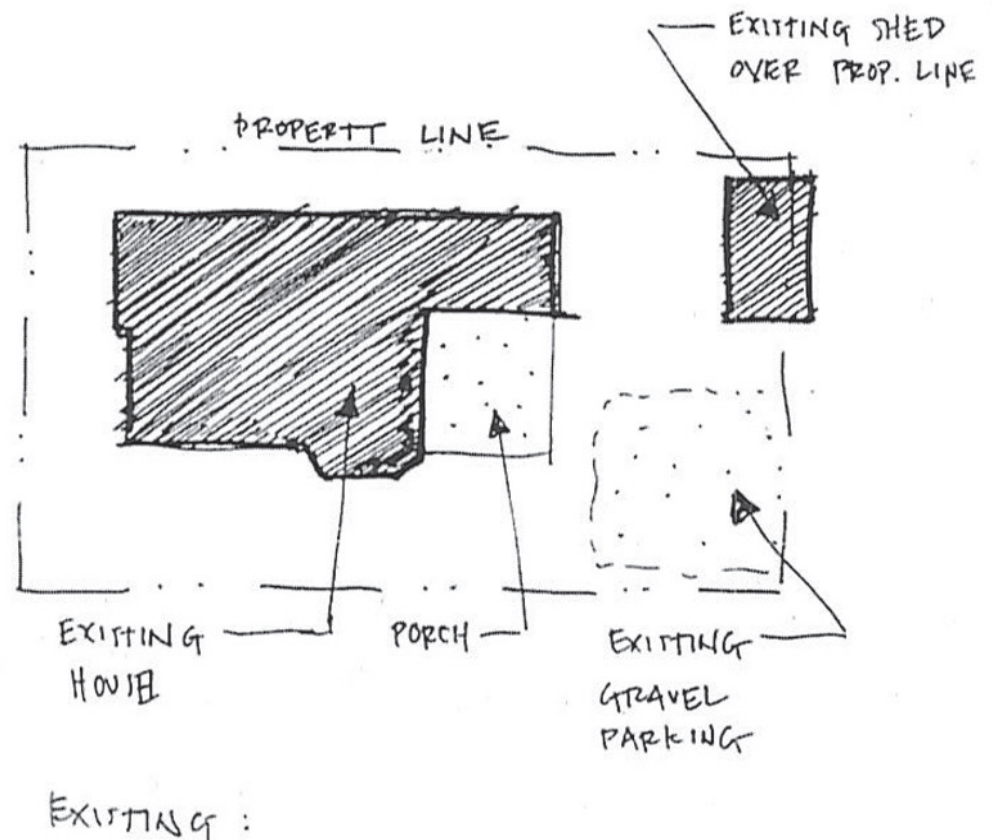
#### Site problems:

- **Drainage.** Water in the form of rain and snow can cause significant damage to any shed. Grade should slope down and away from the structure. Other measures include a drain tile inside or outside the foundation footing, and parging the foundation wall.
- **Setbacks.** Many sheds were constructed on a side or rear property line, or even across the line. When there is an alteration to a shed that does

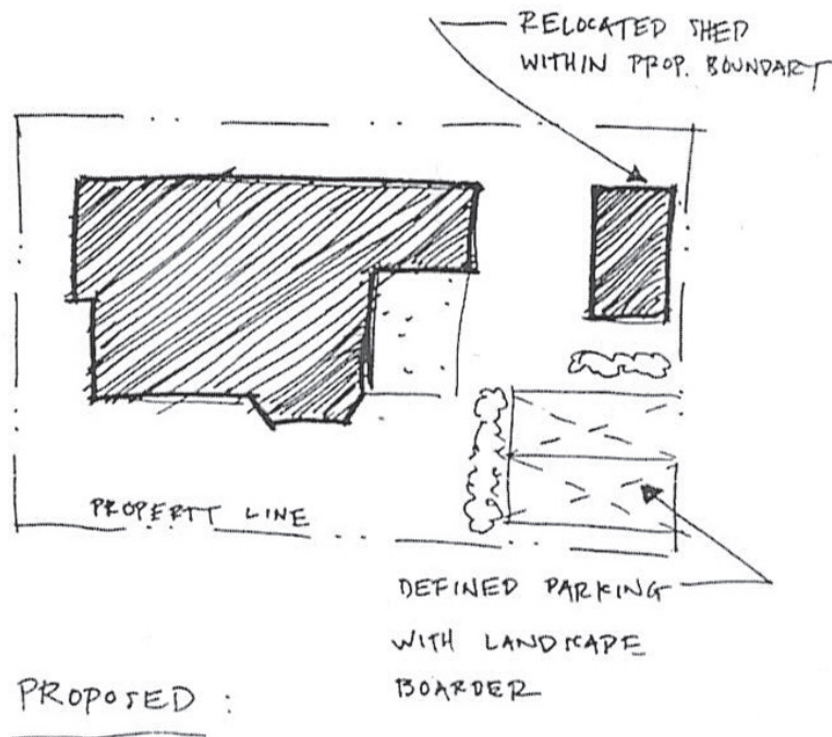
not meet the minimum setback distance from property line, the building code may require either (a) moving the shed to meet the minimum setback requirement, or (b) modifying the wall within the setback (e.g. adding a parapet and eliminating any doors or windows).

#### Site Drainage:

1. Reduce water pressure on retaining walls by improving drainage behind them.



2. Provide drains in the wall to allow moisture to pass through. (RE#13C1)
3. Surface drainage can significantly affect the character of a project and may also impact historic resources. For this reason, runoff should be planned such that will avoid negative impacts on adjacent properties.
4. Develop drainage as a landscape amenity, such as planted swales or rock beds.





## FOUNDATION:

### Types of foundations:

- Dry-stacked rock foundations (historic)
- Wood base plate (stud) resting on the dirt (historic)
- Spread footing with concrete or block wall
- Piers located under columns and/or spaced under a grade beam

### Historic guidelines summary:

1. **Foundation replacement.** The form, materials and detailing of a replacement foundation wall should be similar to the original and to nearby historic shed foundations.
2. **New foundation.** New foundation walls should not increase the height of the structure to the degree that the historic character or alignment of building fronts is compromised.
3. **Basement doors and windows.** If it is necessary to install a door or window in the foundation for egress, the opening and well should not face an adjoining street or alley.

### Shed Problems and Shed Projects:

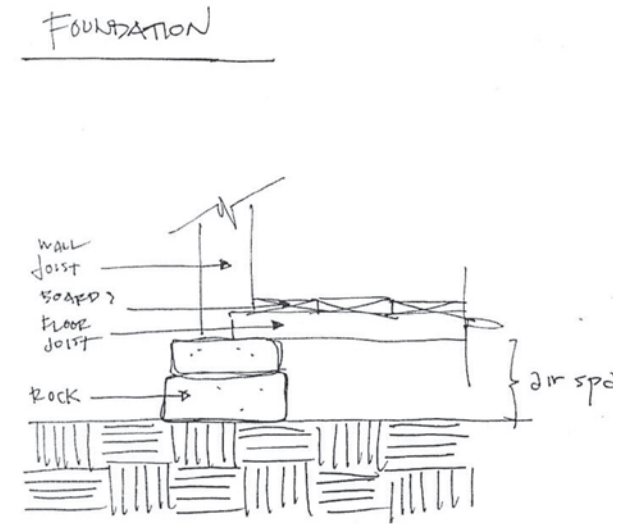
- **Bow in an exterior wall.** Often caused by the shed structure slipping

off its foundation. Causes include an inadequate foundation, uneven settling, and the shrink-swell causing the structure to “walk off”.

- **Crumbling concrete.**
- **Crumbling mortar.** Historic mortar used a lower strength cement. To reduce the likelihood of causing cracks in the masonry, use a lower strength cement.
- **Drainage problems.** (See “Site and Location” section.)
- **Heaving foundation.** (See “replacing a foundation” in this section.)
- **Loose, damaged or missing masonry.**
- **Replacing a foundation.** Methods include replacing a small portion at a time (preferred historic method), lifting or jacking up the structure in place, moving then returning the structure, and disassembling then reassembling the structure.
- **Rotting wood.** Correct any cause of drainage or moisture problem including adding or replacing the foundation below. Replace rotted portion.
- **Slipping structure.** Stabilize slope.

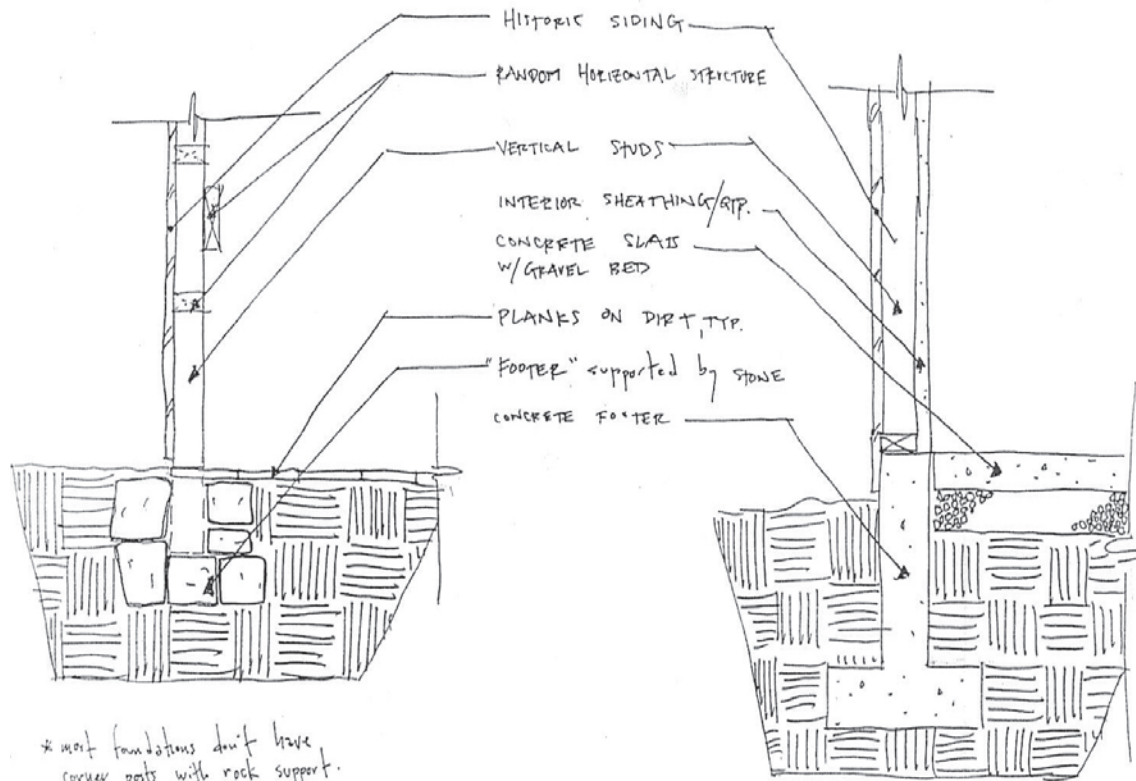
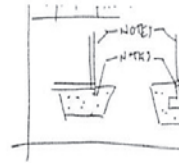
### Sources and further information:

- *Renovating Barns, Sheds & Outbuilding*
- *NPS Technical Briefs*





## FOUNDATION



\* most foundations don't have corner posts with rock support.

EXISTING

RESTORED



## STRUCTURE:

### Types of structural systems:

- Post and beam construction
- Framing construction
- Pole sheds with purlins
- Log structures

### Preservation concerns:

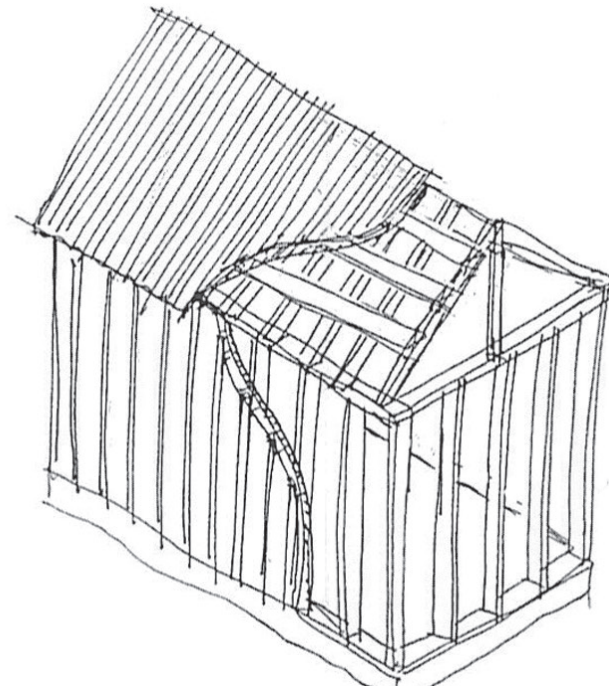
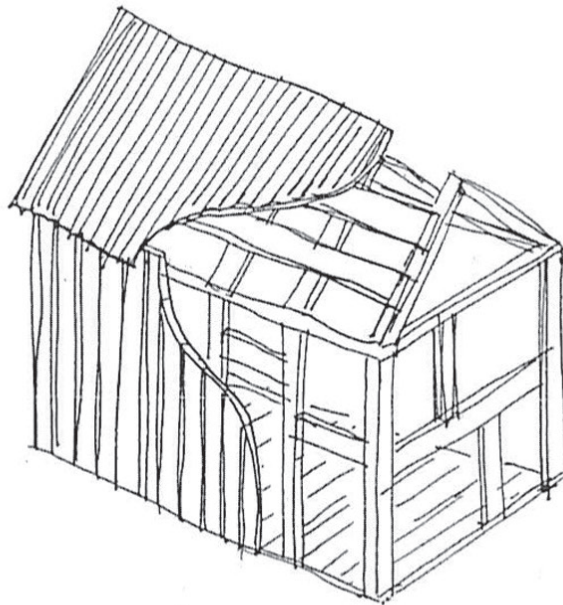
1. Where an existing structural element is inadequate, strengthening the element (e.g. adding a "sister joist") is preferred to replacement.

### Shed Problems and Shed Projects:

- Connecting frame and foundation
- Cutting or enlarge an opening
- Leaning structure
- Remove post or beam
- Rotted framing
- Straightening a bowed wall
- Straightening a sagging wall

### Sources and further information:

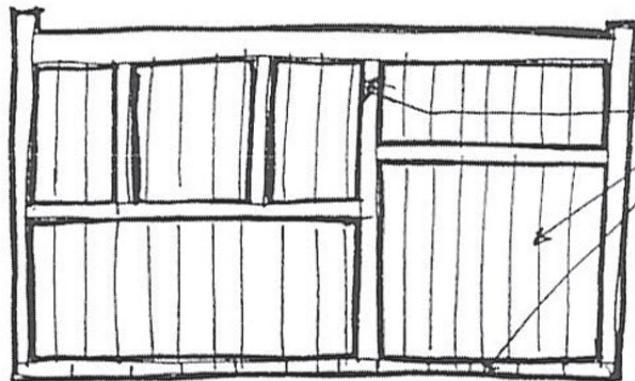
- *Renovating Barns, Sheds and Outbuildings*





# STRUCTURE

HISTORIC



WALL FRAMING - ELEVATION

TOP PLATE

STUD WALL

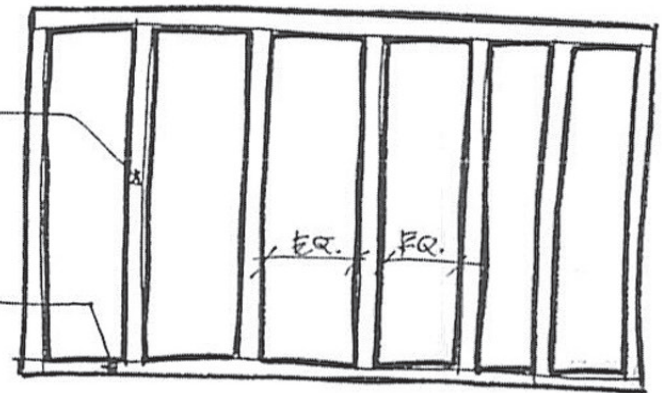
SIDING BEYOND

FLOOR  
DECKING

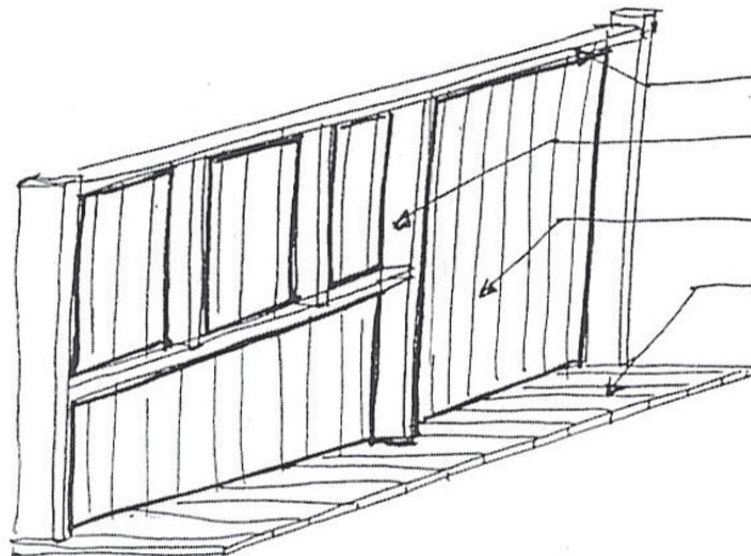
SILL PLATE

+ SISTER  
JOISTS  
OPTION

RESTORED



WALL FRAMING - ELEVATION



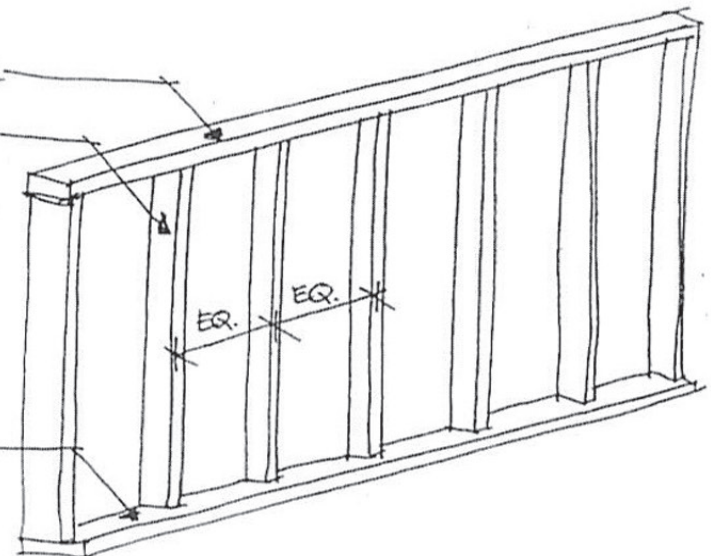
TOP PLATE

VERTICAL  
STUD

SIDING

FLOOR  
DECKING

SILL  
PLATE



## ROOFS

Typical roof shapes are shed and gabled. Many in their early histories were covered in metal. Because roof forms are often one of the most significant character defining elements, for the simple structures of Telluride, their preservation is important.

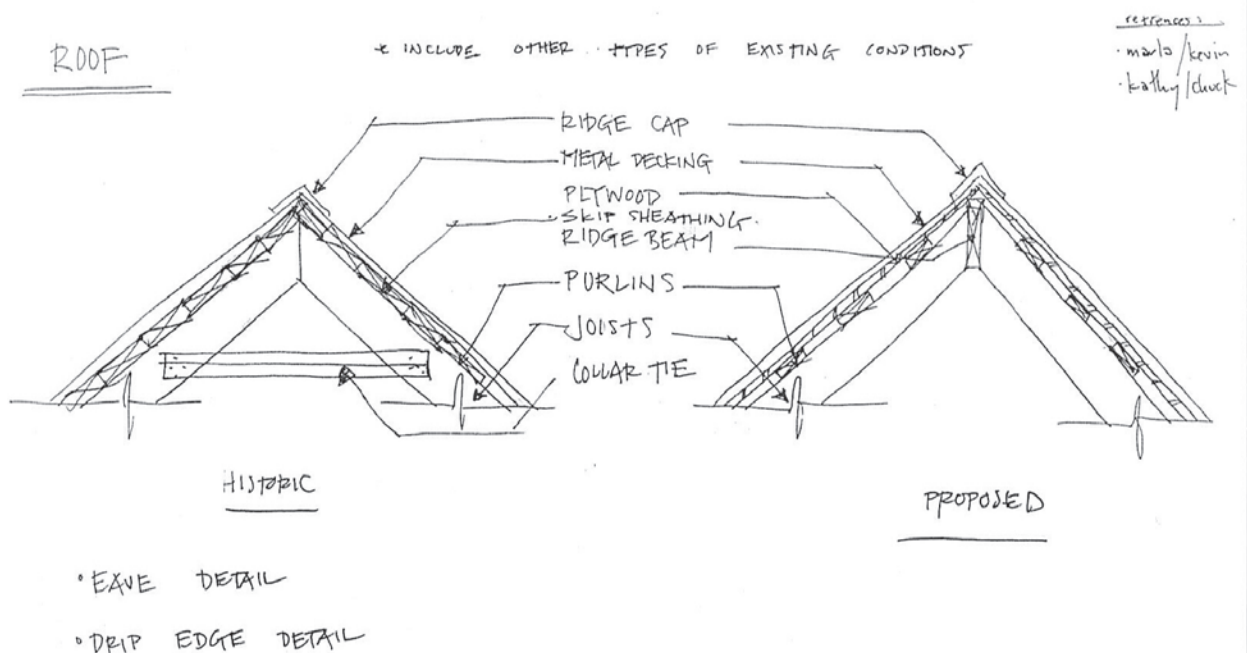
### Historic Guidelines Summary:

1. **Slope.** Avoid altering the angle of the roof.
2. **Roof line.** Maintain the perceived line of the roof from the street or alley.
3. **Cricket and snow guards.** Place crickets or snow guards so they do not alter the form of the roof.
4. **Materials.** When feasible, preserve original roof materials. Where replacement is necessary, use similar materials to the original. Wood shingles, corrugated metal, and standing seam metal are generally appropriate. Asphalt shingles are discouraged, but may be acceptable in earth tones only.
5. **Dormers.** Dormers were sometimes used to create more head room in attics. Most dormers had vertical emphasis, and only one or two were used on a side.

### Roof Problems and Roof Projects:

- Bowed or sagging roof
- Damaged roofing

- Damaged roof deck
- Snow build-up





## EXTERIOR WALLS AND SIDING:

1. **Covering materials.** Original building materials may not be covered with synthetic sidings. If original materials are presently covered, consider exposing them once more.

2. **New material.** Wood is appropriate. Vinyl, aluminum, imitation brick and stucco are inappropriate. If portions of wood siding must be replaced, match the style and dimensions of the original.

3. **Existing material.** Preserve original siding when feasible. Avoid removing siding that is in good condition or that can be repaired in place - Remove only siding which is deteriorated and must be replaced.

4. **Painting.** If the building was painted historically, it shall remain painted, including all trim. Sheds were usually left unfinished.

### Siding materials:

Horizontal boards:

Clapboard

Horizontal tongue-and-rabbet

Vertical boards:

Board-and-batten

Vertical board

Vertical tongue-and-rabbet

Sheet siding:

Corrugated metal



*Corrugated metal*



*Board-and-batten*

### Siding problems

- Cracking and splitting
- Missing boards
- Painting and finishing
- Paint removal
- Rotted wood

## DOORS:

### Historic Guidelines Summary:

- 1. Original doors.** Preserve the functional and decorative features of original doors. Such features include door frames, sills, heads, jambs and moldings.
- 2. Door position.** Avoid changing the position of historic doors, especially important on significant facades.
- 3. Adding or removing doors.** Avoid adding doors or removing existing doors visible from the street or alley.
- 4. Proportion, size and shape.** Maintain the original size and shape of an original door.
- 5. Style.** When replacing doors, use designs similar to those found historically in the community. Simple paneled doors were typical. Very ornate doors are discouraged, unless photographic evidence can support their use.
- 6. Details.** Preserve historic details, when feasible.





## WINDOWS:

### Historic Guidelines Summary:

**1. Historic features.** Preserve the functional and decorative features of original windows. Such features include frames, sash, muntins, mullions, glazing, sills, heads, jambs and moldings and storm windows.

**2. Add or remove.** Avoid removal of historic windows and sash. Avoid adding new windows visible from the street or alley.

**3. Repair or replace.** Repair frames and sash by patching, splicing or reinforcing. If replacement is necessary, replace in kind, to match the original.

**4. Position.** Avoid changing the position of historic windows.

**5. Proportions.** Maintain original proportions.

**6. Openings for windows.** Do not reduce an original opening to accommodate a smaller window. Restoring an altered original window opening is encouraged.

**7. Subdivision of a window.** Replacing multiple panes with a single pane or operable windows with fixed panes is inappropriate. Replacing true divided lights with snap-in muntins is inappropriate.

**8. Storm windows.**

a. **Original storm windows.** Preserve original exterior storm windows.

b. **New storm windows.** If storm windows were not a historic feature of a particular building, install new storm windows on the interior if feasible.

c. **Storm window material.** Where exterior storm windows are necessary, or when replacing originals, wood windows with a sash matching that of the original windows are appropriate. Exterior metal storm windows may be considered only if the frames match the proportions of the original windows and if the frames are painted so that raw material is not visible.

**9. Windows in an addition.** An addition's windows should be similar in character to those in the historic structure.

**10. Window-to-wall ratio.** The window-to-wall ratio should be similar to that of the historic structure.

**11. Skylights.** Flat skylights mounted flush with the roof may be considered. Bubbled and domed skylights are not appropriate. Skylights should not be placed in highly visible locations.



## THERMAL / MOISTURE CONTROL

**Description.** One of the most important considerations in converting an unheated storage shed is the temperature within the structure and the amount of moisture that gets into the building materials and interior space. Existing sheds consist mostly of wood, which is affected both by moisture and dryness. This can be divided into 3 types of problems.

(1) Keeping the interior space warm in the winter and cool in the summer. A building uses its mechanical system (heating and/or cooling) to maintain a comfortable temperature year round, and insulation reduces the heat loss in the winter and solar gain during the summer. A wide variety of insulation and sealants have increased the thermal efficiency of roofs and walls.

Thermal control extends below grade with insulation along the foundation wall.

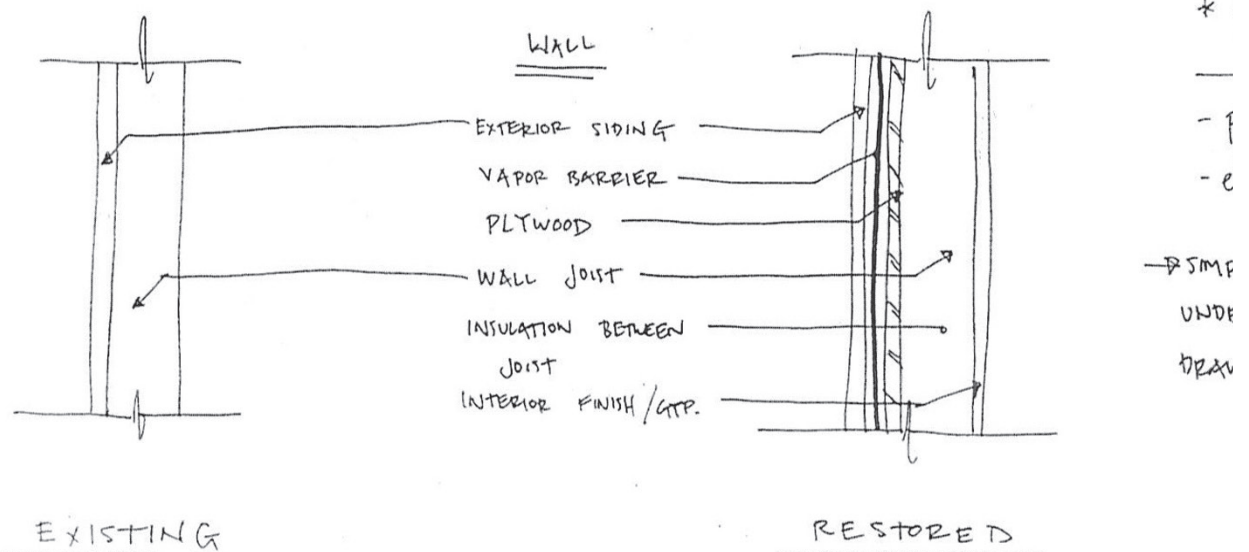
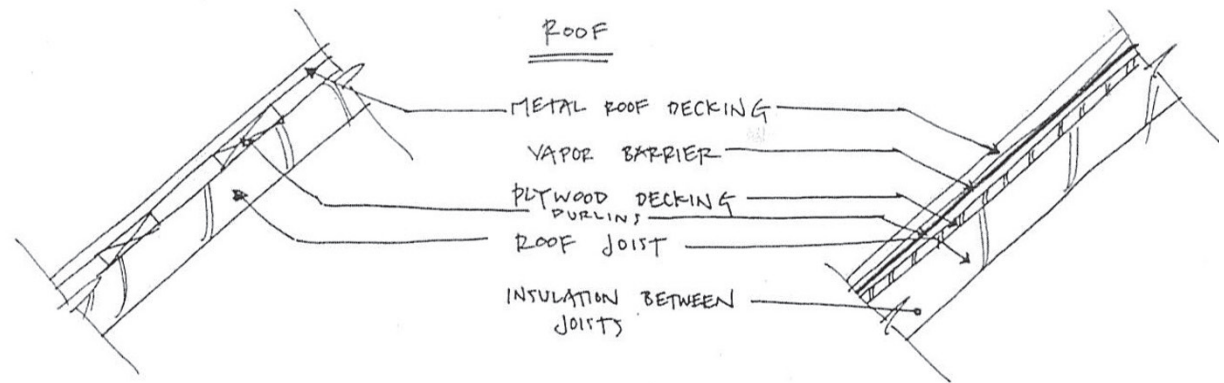
(2) Keeping outside moisture (rain and snow) from getting inside the building. Paint and caulk were rarely applied to sheds as ways of keeping moisture out of a structure. During the winter snow would be in constant contact with the wood material of sheds.

Below grade, a protective coating for the foundation wall and drains along the foundation are used to control moisture.

(3) Controlling the moisture within the wall and the roof that results from having a material with one warm side and one cool side. In recent years there has been a shift in focus from

### THERMAL / MOISTURE

\* INTERMEDIATE STEP



using a vapor barrier material to keep moisture out to shedding the moisture out of the wall.

**Preservation concerns:**

- \_\_\_\_\_ Grade around the structure so that rain and melting snow will drain away from the building.
- \_\_\_\_\_ Properly use vapor barriers to control moisture within the wall structure and roof structure.



*Wall insulation*



*Snow build-up on roofs and against walls*



## ELECTRICAL AND LIGHTING

**Description.** An electrical system has 2 major parts: power and lighting. Power has similar characteristics to plumbing and mechanical systems: (A) a buried or overhead power line coming from the street, alley or house, (B) a meter usually directly visible from the alley, and (C) a circuit panel or breaker box at the building, often with a vertical pipe (or “mast”) to lift the electrical line well above arms reach. Lighting provides a number of unique concerns for historic structures, as indicated below.

### Preservation concerns:

- \_\_\_\_\_ Locate meters away from view from the street or alley, or screen the meter.
- \_\_\_\_\_ Lighting fixtures for sheds and along alleys should be utilitarian (simple in form and detail), preferably with a character similar to those used historically.
- \_\_\_\_\_ All exterior lighting shall have a low level of luminescence - maximum 40 watt incandescent equivalent for site lighting and 25 watt for step lighting.
- \_\_\_\_\_ Use shielded and directed light sources to direct light onto the ground.
- \_\_\_\_\_ Timers and activity switches are preferred.
- \_\_\_\_\_ Lighting should be located so as to not shine into residential living space or into the public right-of-way.

### Some other concerns:

- \_\_\_\_\_ Is a larger or separate electrical service required?

\_\_\_\_\_ If new service is required, is the electrical main near the shed? (A long extension, particularly across someone else’s property, can be very expensive.)

### ***Sources or further information:***

- *Code Check Electrical*
- *National Electrical Code NEC*



*Use downcast light fixtures.*



*Minimize visual impact of equipment.*

## HEATING AND COOLING (MECHANICAL)

**Description.** One of the most significant changes to a shed is adding heat (and cooling) to make the space habitable. This involves not only providing “tempered air” (heated or cooled air) to the space, but also adjusting wall and roof construction to address the moisture created when one side of a material is hot and the other side is cool. (See also “Moisture Protection” in this guide.)

A heating system includes the following components: (A) a source of energy, either a buried gas line or an electric power line, (B) meter, (C) heating appliance or furnace, and, when a fuel is burned (D) a vent for taking in combustion air and (E) a vent for exhaust.

### Preservation concerns:

- \_\_\_\_\_ Locate meters away from view from the street or alley, or screen the meter.
- \_\_\_\_\_ For vents and exhaust pipes, use materials and colors that are compatible with the surrounding roof or wall.
- \_\_\_\_\_ Screen any rooftop equipments from view, and minimize the visual impact of large sizes or groups of vents.
- \_\_\_\_\_ For painting any pipe or vent exhausting heat, use a paint that can withstand high temperatures.

### Some other concerns:

- \_\_\_\_\_ Is a new meter, tap or panel required?
- \_\_\_\_\_ If tapping is needed, is the existing line near the shed? (A long extension,

particularly across someone else’s property, can be very expensive.)  
Is it necessary and allowable to use such as a furnace located in a ceiling or crawl space?

### Sources or further information:

- *International Mechanical Code (IMC)*
- *Code Check Electrical*



*Minimize visual impact of vents.*



*Minimize visual impact of meters.*



## PLUMBING

**Description.** A simple plumbing system (such as a bathroom) includes the following parts that are outside of the building: (A) a buried water supply line coming from the street, alley or house, (B) a buried drain line that connects to a sanitary sewer in the street or alley, (C) a roof vent for the water heater, and (D) an exhaust vent that serves the plumbing fixtures (toilet, sink, and shower or tub).

### Preservation concerns:

- \_\_\_\_\_ Locate meters away from view from the street or alley, or screen the meter.
- \_\_\_\_\_ For vents and exhaust pipes, use materials and colors that are compatible with the surrounding roof or wall.
- \_\_\_\_\_ For painting any pipe or vent exhausting heat, use a paint that can withstand high temperatures.

### Some other concerns:

- \_\_\_\_\_ Is a new water or sewer tap required?
- \_\_\_\_\_ If tapping is needed, is the existing line near the shed? (A long extension,

particularly across someone else's property, can be very expensive.)

- \_\_\_\_\_ If hot and cold water lines are in an exterior wall, are they protected from freezing?

- \_\_\_\_\_ Is it necessary to use fixtures that will save space (such as a shower instead of a tub, or a tankless water heater instead of a conventional water heaterfor)?

### Sources or further information:

- *International Plumbing Code (IPC)*
- *Code Check Plumbing*



*Rough plumbing for a bathroom*

## MATERIALS

**Wood and siding.** Wood is the dominant building material historically. To preserve the wood, it is important protect it from damage from moisture.

1. **Drainage.** Provide proper drainage and ventilation to minimize rot.
2. **Protective coatings.** Provide and maintain a protective coating (other than paint) to retard drying and ultraviolet damage.
3. **Repair.** Repair wood features by patching, piecing-in, consolidating or otherwise reinforcing the existing wood.
4. **Replacement.** Avoid the removal of damaged wood that can be repaired.

**Masonry.** Although used on many commercial buildings and homes, there was very little use of stone or brick masonry as a wall material or as a foundation material in sheds.

1. **Existing historic masonry.** Preserve the masonry features that define the overall historic character of the building.
2. **Repair than rebuild.** Avoid rebuilding a major portion of exterior masonry walls that could be repaired. Reconstruction may result in a building which is no longer historic and is essentially new construction.
3. **Mortar joints.** Preserve, or repair to

duplicate, the following mortar characteristics that are original.

- Mortar joint width and profile
- Masonry unit sizes
- Tooling and bonding patterns
- Coatings
- Color
- Composition
- Texture
- Composition. Avoid using mortar with a high Portland cement content (like most contemporary mortars). High cement content will likely lead to cracking in the masonry units.

4. **Painting masonry.** Do not paint brick or stone that was not painted historically.
5. **Protection from moisture.** Provide proper drainage so that water (a) does not stand on flat, horizontal surfaces or accumulate in decorative features, and (c) drains away from foundations and walls.
6. **Cleaning.** Use gentlest methods possible.
  - a. Clean masonry only when necessary to remove heavy soiling.
  - b. Test cleaning procedures in sample patches first.
  - c. Low pressure water and detergent cleaning, using bristle brushes, is encouraged.
  - d. Abrasive cleaning methods, such as sand blasting, will not be allowed for brick structures. These may remove the water-

protective outer layer of the brick and thereby accelerate deterioration. Abrasive cleaning of stone may be approved, but only following a thorough analysis of the technique and specifications to assure that the stone will not be damaged.

**Metals.** Metal was widely used historically on sheds for walls, roofs and other features.

1. **Features.** Preserve architectural metal features that contribute to the overall historic character of the building. Examples are columns, roofs, window hoods and storefronts.
2. **Drainage.** Protect metals from corrosion by providing proper drainage.
3. **Protective coatings.** Where used historically, maintain protective coatings, such as as paint, on exposed metals.
4. **Cleaning.** Use the gentlest cleaning method possible when removing deteriorated paint or rust from metal surfaces. Harsh abrasive cleaning methods should be avoided.
5. **Repair.** Repair metal features by patching, splicing or otherwise reinforcing the original metal whenever possible.





*Board-and-batten siding*



*Log walls*



*Plank siding*



*Corrugated metal siding*



*Clapboard siding (or lap siding)*



*Stone masonry walls*





*Corrugated metal*



*Sawn shake roof*



*Ribbed metal roof*

## TERMS USED IN THIS GUIDE

American Institute of Architects - p. 4  
AIA - p. 4  
Architect – p. 9

Bid process - p. 4  
**Board-and-batten wall - p. 34**  
**Building Code – p. 8**

**Clapboard siding - p. 34**  
Conceptual plan - p. 4  
Construction documents - p. 4  
Construction observation - p. 4  
Contractor - p. 9  
Contracts - p. 4  
**Contributing structure – p. 5**  
**Corrugated metal siding - p. 34**  
**Corrugated roof - p. 35**  
**Covenants – p. 8**

**Designated structure with qualifications – p. 5**

**Designated structure without qualifications – p. 5**

Design build process - p. 4  
Design development - p. 4  
Designer – p. 9  
**Design Guidelines – p. 8**  
Drafter or draftsman – p. 9  
**Drainage - p. 18**

**Easements – p. 8**  
**Electrical - p. 30**  
**Engineer – p. 7**

**Frame construction – p. 4**

**General contractor – p. 7**

**Heating and cooling - p. 31**  
**Historic and Architectural Review Commission – p. 6**

Integrity - p. 8  
Interior designer – p. 9  
**International Plumbing Code (IPC) - p. 32**

Landscape architect – p. 9  
**Landscape features - p. 18**  
**Land Use Code – p. 8**  
**Lap siding - p. 34**  
**Log wall - p. 34**

**Mechanical - p. 31**

National Historic Landmark District - p. 8  
National Park Service (NPS) - p. 8  
**Non-designated structure – p. 5**

Outbuilding - p. 6  
Outhouse - p. 6

**Plank siding - p. 34**  
**Plumbing - p. 3**  
**Pole construction – p. 4**  
**Post-and-beam construction – p. 4**  
Preliminary plan - p. 4  
Privy - p. 6  
Project representative - p. 4, 5

**Rated structure – p. 5**  
**Retaining walls - p. 18**  
**Ribbed metal roof - p. 35**

**Sanitary sewer - p. 32**  
**Sawn shakes roof - p. 35**  
**Setbacks - p. 18**  
**Sewer tap - p. 32S**  
Shed - p. 6  
Significance - p. 8  
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